



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

**75 Hawthorne Street
San Francisco, CA 94105-3901**

August 20, 2007

Penny Woods, Project Manager
Bureau of Land Management
Nevada State Office
Groundwater Projects Office
1340 Financial Blvd.
P.O. Box 12000
Reno, NV 89520

Subject: Draft Environmental Impact Statement for Kane Springs Valley
Groundwater Development Project, Lincoln County, Nevada (CEQ#
20070255)

Dear Ms. Woods,

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the above project. Our review and comments are pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

Based on our review, we have rated the Kane Springs Valley Groundwater Development Project as Environmental Concerns – Insufficient Information (EC-2). A *Summary of EPA Rating Definitions* is enclosed. EPA is concerned with the cumulative impacts of the proposed project in conjunction with reasonably foreseeable future residential, commercial, groundwater, and energy development projects in the region; all of which anticipate use of the same carbonate-rock aquifer. Our concern is based upon the many pending water right applications and uncertainties regarding the long-term sustainable yield of this aquifer.

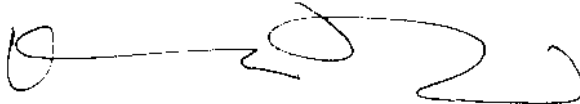
We urge the Bureau of Land Management, Cooperating Agencies, Lincoln County Water District, Vidler Water Company, Coyote Springs Investments, and other water right applicants to develop a regional groundwater framework to ensure efficient long-term sustainable use of the deep carbonate-rock aquifer and avoidance of adverse impacts to third parties and surface and groundwater quality and quantity.

The proposed project is located in the Mojave Desert characterized by low humidity and minimal annual rainfall. Water supply sources are scarce. We recommend that Kane Springs Valley project water be utilized only after a clear demonstration by beneficiaries of effective use of in-basin supplies and application of aggressive water use efficiency, conservation, and reuse measures. We also recommend that the final

environmental impact statement (FEIS) include a discussion of potential monitoring, adaptive management and mitigation measures for the direct impacts of the project to regional springs, as well as indirect and cumulative impacts.

We appreciate the opportunity to review this DEIS. We are available to discuss our comments. When the FEIS is released for public review, please send one copy to the above address (mail code: CED-2). If you have any questions, please call me at 415-972-3846 or Laura Fujii, of my staff, at 415-972-3852 or fujii.laura@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Nova Blazej', with a stylized flourish at the end.

Nova Blazej, Manager
Environmental Review Office

Enclosures:

Summary of EPA Rating Definitions

Detailed Comments

Cc: Jeff Weeks, BLM, Ely District Office
Annalaura Averill-Murry, U.S. Fish and Wildlife Service, Nevada Field Office
Brad Hardenbrook, Nevada Department of Wildlife
Brad Huza, Moapa Valley Water District
Ronda Hornbeck, Lincoln County Water District
Donald A. Pattalock, Vidler Water Company
Ruth Sundermeyer, Coyote Springs Investments

SUMMARY OF EPA RATING DEFINITIONS

This rating system was developed as a means to summarize EPA's level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the EIS.

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

ADEQUACY OF THE IMPACT STATEMENT

Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

**EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT
FOR THE KANE SPRINGS VALLEY GROUNDWATER DEVELOPMENT PROJECT,
LINCOLN COUNTY, NV, AUGUST 20, 2007.**

Cumulative Impact Analysis

Promote formation of a regional carbonate-rock groundwater framework and aggressive water use efficiency and conservation. EPA is concerned with the potential adverse cumulative impacts of the proposed project in conjunction with reasonably foreseeable future projects which anticipate use of the same carbonate-rock aquifer. Our concern is based upon: 1) the many pending water right applications in Nevada and Utah; 2) the uncertainties regarding: the amount of ground-water recharge, quantification of subsurface inflows and outflows, the connection of Kane Springs Valley with the White River Regional flow system, the interconnection between multiple hydrographic basins; and, 3) impacts on senior appropriated water rights and sensitive aquatic resources in down-gradient basins (Nevada State Engineer Ruling 5712, p. 15). Table 4-7 (p. 4-59) also indicates that permitted water rights may already exceed the estimated perennial yield for the cumulative impacts area (Kane Springs Valley, Coyote Spring Valley, Muddy River Springs Valley). The draft environmental impact statement (DEIS) also states that there may be potential direct impacts to groundwater quantity from drawdown and indirect impacts related to lowered yields at regional springs (p. ES-13).

Recommendations:

EPA commends the collaboration between the water right applicants and U.S. Fish and Wildlife to address potential impacts to Muddy River Springs sensitive species (Appendix A) from use of the carbonate-rock aquifer. We recommend the Bureau of Land Management (BLM), Cooperating Agencies, Lincoln County Water District (LCWD), Vidler Water Company (VWC), Coyote Springs Investments (CSI), and other water right applicants continue this collaboration in the form of a regional groundwater framework to ensure efficient long-term sustainable use of the deep carbonate-rock aquifer and avoidance of adverse impacts to third parties and surface and groundwater quality and quantity. Opportunities for such collaboration should be discussed in the final environmental impact statement (FEIS).

We also recommend that water provided by this project be allocated only after the beneficiaries have demonstrated effective use of in-basin supplies and maximum water use efficiencies, such as conservation, reuse, and maintenance of water quality. This information should also be included in the FEIS, as discussed below.

Implement measures to avoid and minimize adverse indirect and cumulative impacts to regional springs. While we recognize and commend the agreements to minimize adverse impacts on the Moapa dace and Muddy River Springs (Appendix A), we remain concerned with potential indirect and cumulative impacts to other third parties, beneficial uses, and aquatic species, wildlife, and habitat resources due to cumulative reduction in flows to regional springs.

Recommendations:

The final environmental impact statement (FEIS) should describe potential indirect and cumulative impacts to regional springs other than Muddy River Springs, and on other third parties, beneficial uses, and sensitive resources. We recommend the FEIS include a description of measures which could avoid or minimize these impacts, and the most appropriate entities to implement these measures.

Water rights and appropriations from the carbonate-rock aquifer are regulated by the Nevada State Engineer. To ensure full disclosure, we recommend the FEIS describe the water right permitting process and the role of the Nevada State Engineer in protecting beneficial uses, human health, and the environment. For example, describe whether water right permits include special conditions; measures to mitigate direct, indirect, and cumulative impacts; and provisions for monitoring and adaptive management.

We recommend the FEIS include a discussion of potential monitoring, adaptive management and mitigation measures for the direct impacts of the project, as well as indirect and cumulative impacts. The description of potential mitigation measures should discuss the effectiveness of the measure and the appropriate entities to implement the mitigation.

Provide a summary of the CSI development and the potential direct, indirect and cumulative impacts of this connected action. The CSI development would be the primary beneficiary of the proposed Kane Springs Valley Groundwater Development Project (Appendix B Nevada State Engineer's Ruling 5712, p. 19). In addition, the CSI development would require an additional 70,000 acre-feet per year (afy) for build-out (15,000 afy for CSI-Clark County, p. 4-49; and 55,000 afy CSI-Lincoln County, p. 4-54). Actions are connected if they are closely related and if they cannot or will not proceed unless other actions are taken previously or simultaneously (40 CFR 1508.25(a)(1)). The CSI development is a connected action, in that the development relies, upon the water provided by the Kane Springs Valley Groundwater Development Project, existing Coyote Springs Valley permitted water rights, and pending water right applications. We are concerned with the potential direct, indirect and cumulative impacts associated with the CSI development which would result in conversion of approximately 36,603 acres of Mojave Desert (pps. 4-48, 4-51) to urban use.

Recommendation:

The FEIS should include a summary of the potential direct, indirect, and cumulative impacts from the CSI development enabled by this project. Of specific interest are potential impacts to water resources, air quality, desert biotic communities, wildlife, Wilderness, Special Use Areas, and Areas of Critical Environmental Concern. The FEIS should also discuss the status of the EIS for the CSI Development/Multi-Species Habitat Conservation Plan.

Conservation and Water Use Efficiency

Provide specific information on CSI development water use and water rights. The DEIS states that LCWD, through its partner VWC, has an agreement with CSI to provide all Kane Springs Basin water to the CSI development in Clark and Lincoln Counties. CSI has also agreed to pay for the proposed groundwater development infrastructure (Appendix B Nevada State Engineer's Ruling 5712, p. 19). The proposed project and CSI development are located in the Mojave Desert where long-term sustainable water use will be crucial in protecting human health and the environment. It is therefore important that decision makers and the public know the source of the water supply and are confident that these supplies will be used in the most appropriate and effective manner.

Recommendations:

The FEIS should describe how CSI will maximize efficient use of this inter-basin water transfer. For example, the FEIS should provide specific information on proposed CSI development water use efficiency, reuse, and conservation measures. Describe the anticipated level of water use of CSI development households (e.g., amount of gallons per capita per day), water reuse, and water conservation measures in comparison with other southern Nevada developments. We recommend CSI pursue aggressive water use efficiency and conservation measures to ensure the most effective and appropriate use of scarce water supplies.

The FEIS should also provide specific information on existing CSI certified or permitted water rights in Clark and Lincoln Counties. We recommend the FEIS include information such as the source of the proposed water supply, the long-term sustainability of this source, amount of water permitted for appropriation, and the allowed points of diversion.

Describe water use efficiency, conservation, and reuse management measures applicable to all water supply users. There are many existing and pending water right applications for the carbonate-rock aquifer (e.g., Table 4-7, p. 4-59). EPA strongly supports the implementation of water management tools to maximize water conservation and water use efficiencies – key components of supply and demand management. Innovative and aggressive supply and demand management is essential in assuring a long-term, sustainable balance between available water supplies, demand, and ecosystem and public health. Efforts to improve water supply system flexibility, conservation, and water use efficiencies are even more urgent given the projected growth in Clark and Lincoln Counties, the adverse effects of the current multi-year drought, and the potential adverse effects of climate change on scarce water supplies.

Recommendations:

We recommend the FEIS include a detailed tool kit of supply and demand management measures in an appendix. The list of tools could serve as a resource for CSI, as well as other users of the carbonate-rock aquifer, the Nevada State Engineer, and water right applicants who wish to maximize the effective use of scarce water supplies. The appendix should describe

the full range of tools available to water users to improve water quality and reuse, maximize water use efficiencies, balance supply and demand, and avoid and minimize adverse effects to third parties.

Efficient water use can be enhanced through development, infrastructure, and drinking water policies. We recommend the FEIS discuss the linkages between water use and these factors and describe potential mechanisms to support water use efficiencies. We recommend the FEIS provide a short discussion of who could best implement the identified mechanisms. The following reports may be of assistance as a starting point for the evaluation:

- *Growing Toward More Efficient Water Use: Linking Development, Infrastructure, and Drinking Water Policies*. EPA Publication 230-R-06-001, EPA National Service Center for Environmental Publications, (800) 490-9198 or nscep@bps-lmit.com.
- *Protecting Water Resources with Higher-Density Development*. EPA publication 231-R-06-001. EPA National Service Center for Environmental Publications, (800) 490-9198 or nscep@bps-lmit.com.

Long-Term Availability of Water Supplies

Provide a discussion of the relationship between water supply and power availability.

Water use and power are inextricably linked where water use, from source and conveyance to wastewater treatment, requires energy. Given power shortages and water scarcity across the West, it is important that policy makers, water and energy experts, and the public understand and consider these links.

Recommendation:

We recommend the FEIS discuss and evaluate the relationship between water supply and power requirements. The FEIS should include a description of the projected power needs of the Kane Springs Valley Groundwater Development Project, associated CSI development, and the long-term availability of this power.

Describe back-up water supplies. The estimated range of perennial yield of the Kane Springs Valley Hydrographic Basin is great--500 acre-feet per year (afy) to 5,000 afy (pps. 4-6 to 4-7). Other uncertainties include the inflow and outflow with other hydrographic basins; effects of changing climate and drought; and the need to reduce or stop groundwater withdrawals pursuant to the Stipulated Agreement and Memorandum of Agreement to prevent adverse effects on the Moapa dace and Muddy River Springs (Appendix A). Therefore, the availability of alternative water sources will be necessary to ensure a reliable supply.

Recommendation:

We recommend the FEIS describe back-up water sources which can be used if actual groundwater yield is 500 afy versus 5,000 afy, or if Stipulated Agreement "trigger points" requiring reduction or cessation of pumping are reached.

State the source of water for the projected delivery of 5,000 afy. The DEIS states that this project will construct facilities and infrastructure to pump and convey up to 5,000 afy for delivery to the northern portion of Coyote Spring Valley (p. ES-1). The Nevada State Engineer's Ruling 5712 permitted 1,000 afy for the four LCWD applications filed for water right appropriations from the Kane Springs Valley Hydrographic Basin. In this ruling the State Engineer concludes that to permit the appropriation of water in an amount greater than permitted under this ruling would conflict with existing rights and threaten to prove detrimental to the public interest (Appendix B, Ruling 5712, p. 22).

Recommendation:

We recommend the FEIS describe the source of water for the remaining 4,000 afy to be delivered by the proposed project.

Climate Change

Provide a short discussion of climate change and its potential effects on the proposed action and related CSI development. A number of studies specific to the Colorado River Basin, which includes the project area, indicate the potential for significant environmental impacts as a result of changing temperatures and precipitation.¹ A more extensive discussion of climate change and its potential effects on the proposed groundwater development action would better serve decision-making on this project, as well as long-term, regional water management planning and planned development.

Recommendation:

We recommend the FEIS include a separate discussion of climate change and its potential effects on the proposed groundwater development project and associated CSI development. We recommend this discussion provide a short summary of climate change studies specific to the project area and Colorado River Basin, including their findings on potential environmental and water supply effects and their recommendations for addressing these effects. For example, if there is a projected 10-20% reduction in precipitation for the Colorado River Basin², we recommend the FEIS describe the potential effect on this and other groundwater development projects, projected quantity and sustainable groundwater withdrawal from the carbonate-rock aquifer, and existing and future urban development.

General Comments

Provide a summary of the results of Section 7 Endangered Species Act consultation. The DEIS states that a Biological Assessment (BA) will be prepared for the proposed Action and submitted to the US FWS pursuant to Section 7 of the Endangered Species Act (ESA).

¹ For example, Colorado River Basin Water Management: Evaluating and Adjusting to Hydroclimatic Variability (2007); The Colorado River Basin and Climatic Change, Linda L. Nash & Peter H. Gleick (1993) (EPA Publication 230-R-93-009).

² Nash and Gleick, p. ix.

Recommendation:

We recommend the FEIS provide a summary of the results of the Section 7 ESA consultations. The BA and associated Biological Opinion or Decision Memo from the US FWS should be included in an appendix.